

**Appendix A**  
**Taxonomic List of**  
**Benthic Macroinvertebrates**  
**Collected in Ohio, September 1992**







**Appendix B**  
**Taxonomic List of**  
**Benthic Macroinvertebrates**  
**Collected in New York, September 1993**

**Appendix B. Taxonomic list of benthic macroinvertebrates collected in New York; September, 1993.**

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## **Appendix C**

### **Quality Control Elements**



Activity	Routine, Method, or SOP and Responsibility
habitat assessment	as per Barbour and Stribling 1991; parameters and rating procedure described in section 2.1, this document; observations performed prior to benthic sampling in order to avoid bias; original field data sheets archived in Tetra Tech, Owings Mills, MD, office; responsibility - <b>Dr. J.B. Stribling</b> , Tetra Tech, Inc., 10045 Red Run Blvd., Suite 110, Owings Mills, MD 21117
benthic sampling	as per Plafkin et al. 1989; also described in section 2.2, this document; double-composite 1m <sup>2</sup> kicknet samples, mesh size, standard no. 30 mesh (openings 600 $\mu$ ), larger substrate particles (cobble and small boulder) scrubbed by hand to dislodge attached organisms; 1 from fast water riffle composited with 1 from slow water riffle in sieve-bottomed bucket (openings 600 $\mu$ ); organisms adhering to or entwined in net removed with forceps and placed into sieve bucket; responsibility (for Ohio case study) - <b>Dr. J.B. Stribling</b> , <b>S. W. Lipham</b> , Tetra Tech, <b>Dr. G.A. Burton</b> , <b>Ms. Katherine Jacher</b> , Biological Sciences Department, Wright State University, Dayton, OH 45435, <b>Mr. Chris Faulkner</b> , U.S. EPA/AWPD/Monitoring Branch (WH-553), 401 M Street, Washington, DC 20460; (for New York case study) - <b>Dr. J.B. Stribling</b> , <b>Ms. C. Gerardi</b> , Tetra Tech, <b>Ms. Marjorie C. Coombs</b> , U.S. EPA, Office of Science and Technology, Standards and Applied Sciences Division, 401 M Street, SW #4305, Washington, DC 20460
subsampling	described in section 2.2, this document; emptied from sieve bucket into gridded sorting tray (with numbered grids), manipulated into even spread within tray; if too much detrital or algal content, sample split into two trays (when split between two trays, identical grids are picked simultaneously between the two); using random numbers table, individual grids selected for picking, all organisms removed with fine forceps and placed directly into prelabelled sample container with approximately 70% ethanol; counted organisms placed in container; successive grids selected until AT LEAST 300 organisms were obtained (Ohio), 200 or 100 organisms (New York); if subsample total was reached prior to completing a grid, the remaining organisms were removed from that grid; for mobile organisms, visual estimates were made of the number of individuals moving into and out of the grid being picked and an approximation of that estimate was taken (Ohio), new subsampling screen greatly reduced mobility of organisms for the New York study; responsibility - <b>Dr. J.B. Stribling</b>
taxonomy	taxonomic literature used in performing identifications is presented in section 2.2, this document; responsibility - <b>Dr. M.C. Swift</b> and <b>B. Kulinska</b> , Monticello Ecological Research Station, University of Minnesota, P.O. Box 500, Monticello, MN 55362; cladocerans were identified by <b>Dr. Stanley Dodson</b> , Department of Zoology, Birge Hall, University of Wisconsin, Madison, WI 53706 (Ohio study only)
voucher specimens (samples)	in storage, responsibility - <b>Dr. J.B. Stribling</b>
abundance totals in metric calculations	special considerations in the use of abundance totals for calculation of the metrics is presented in section 2.2 of this document; responsibility - <b>Dr. J.B. Stribling</b> , <b>Ms. C. Gerardi</b> , Tetra Tech
metric calculations	metric calculations were performed by hand according to the individual metric descriptions presented in section 2.3 of this document; approximately 21% of the metrics were recalculated by hand as a QC check; another approximately 10% were recalculated by computer as further check; responsibility - <b>Ms. C. Gerardi</b> , <b>Dr. J.B. Stribling</b>
report preparation	authorship, organization, graphics production; responsibility - <b>Dr. J.B. Stribling</b> , <b>Dr. Michael T. Barbour</b> , Tetra Tech

<b>Problems (Ohio Study)</b>	<b>Action(s) taken</b>
high water, unable to sample Cuyahoga River stations	aborted sampling activity on 9/10/92 following completion of Scioto (9/8/92) and Sandusky (9/9/92) sampling; opted to return in 2 weeks, tentatively set return for 9/24/92; on returning 9/24/92 and Cuyahoga still 3 feet above normal and unable to sample, via pay telephone to Ohio EPA (J. DeShon) located workable stations on the Little Cuyahoga River
ecoregional reference station for Little Cuyahoga River flooded, 9/24/92, unable to sample Breakneck Creek at Kent	decided to rely on site-specific upstream reference (station CR1 at Mogadore)
high water at Ohio EPA-recommended sampling station prevented sampling (Little Cuyahoga River at Mogadore)	sampled approximately 0.1 mile farther upstream
depressed abundance of organisms in kicknet samples at Little Cuyahoga stations CR2 and CR3	total samples picked, but still falling below 300-organism goal
needed rapid turnaround time on taxonomic analysis of samples	primarily generic-level identifications performed
<b>Problems (New York Study)</b>	<b>Action(s) taken</b>
deep water, muck bottom - unable to sample beyond RBPI screening assessment at HB3	ended assessment at RBPI level, site (HB3) not used in biological assessment
hyperabundance of amphipods at regional reference site (CHR4) for Harbor Brook & Canastota Creek	upstream site on Canastota Creek (CC1) used for reference comparison
conductivity meter began to give erratic reading	stopped taking conductivity readings